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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/543,007	05/02/2006	Franz Freudenthal	PPT001	2439
33047 7590 04/22/2011 GROSSMAN, TUCKER, PIERREAU & PFLEGER, PLLC 55 SOUTH COMMERCIAL STREET MANCHESTER, NH 03101				
EXAMINER				
OU, JING RUI				
ART UNIT		PAPER NUMBER		
3773				
MAIL DATE		DELIVERY MODE		
04/22/2011		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/543,007

Applicant(s)

FREUDENTHAL, FRANZ

Examiner

JING RUI OU

Art Unit

3773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 40-50, 52-63 and 65-75 is/are pending in the application.
- 4a) Of the above claim(s) 74 and 75 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 40-50, 52-63, and 65-73 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is responsive to the amendment filed on 02/22/2011. Claims 40-50, 52-63 and 65-75 are pending. Claims 40, 67, 71, and 74 are independent. Claims 74 and 75 are withdrawn from consideration. Claims 1-39, 51, and 64 are cancelled.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 49 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Claim 49 recites "wherein said support structure includes partial areas which are formed from a single wire-like element having different diameters along different portions of its length." It is indefinite and unclear whether the partial areas have different diameters or the single wire-like element has different diameters. The Examiner interprets it to be that the partial areas have different diameters.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 40-50, 52-59, 63, 65, and 66 rejected under 35 U.S.C. 103(a) as being unpatentable over Amplatz et al (US Pat. No.: 5,944,738) in view of Hyodoh et al (US Pub. No.: 2003/0149475) and Shaw et al (US Pat. No. 6,171,329).

In regard to Claims 40-50, 52-59, 63, 65, and 66, Amplatz et al discloses a device comprising: a support structure (10) which has a primary shape which as a first length-to-width ratio along an axis in a primary shape (Fig. 5) and having secondary shape having second length-to-width ratio along said axis in a secondary shape (Fig. 7), two ends (ends at around 26 and 28), a proximal portion, a distal portion (12 and 14), and a surface (Fig. 7); wherein the support structure comprising a tissue and/or scrim and/or net structure (Fig. 7); wherein said first length-to-width ratio is greater than said second length-to-width ratio; wherein the proximal portion/and or distal portion in the secondary shape is substantially flat in a disk shape(Fig. 7); and a delimited inner space (Fig. 5); wherein the inner space include an opening (Fig. 5, one of the openings between wires); wherein the proximal portion and the distal portion are placed flat and partially on top of one another (Fig. 2); wherein at least a partial area of the implantable device is folded (Fig. 5); wherein an eccentrically arranged central through-opening (the

central channel space formed in the device) remains in the implantable device in the secondary shape of the support structure (Fig. 7); wherein an intermediate portion (16) having a reduced diameter compared to the proximal portion and distal portion (Fig. 5); wherein the primary shape is asymmetrically or irregularly configured (Fig. 5); wherein the material concentration inside the support structure is different from portion to portion (Fig. 5, the material concentration inside the support structure is different from the proximal end to the central portion); wherein the end of the proximal portion is completely close by provision of a plate element (30); the end of the distal portion or proximal portion has one or more loops which are interlaced in particular with a substantially uniform edge being formed (Fig. 7); wherein the support structure is designed as a two-part unit (12 and 14) connected to one another to form one part; wherein individual parts of the support structure are designed uniformly (Fig. 7); the support structure of the implantable device in the primary shape is configured like a stent (a stent can have any shape); wherein one or more membranes are incorporated into the support structure (Col. 9, lines 55-58); wherein the membrane is formed by inweaving of at least one filament (a mesh is formed by inweaving of at least one filament); and wherein the wire-like element of the implantable device is made of nitinol (Col. 5, lines 48-60).

Amplatz et al does not appear to disclose that the support structure is formed from a single intertwined, inter-coiled wire-like element. However, Hyodoh et al discloses a support structure of an implantable device (10 or 700, Figs. 50A and 57B-D) formed from a single intertwined, inter-coiled wire-like element (Paras. [0146], [0152],

and [0233]) configured into a tissue and/or scrim and/or net structure. Furthermore, Hyodoh et al teaches that the two ends of said wire-like element are both arranged at one end of said support structure. In addition, Shaw et al teaches a support structure of an implantable device formed from a single wire-like element (Shaw et al, Col. 13, lines 60-67). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the support structure of Amplatz et al to be formed from a single intertwined, inter-coiled wire-like element as taught by Hyodoh et al to enable the device to remain quite flexible in its compacted, inserted configuration (Shaw et al, Col. 13, lines 60-67) and by eliminating the used of two clamps since one clamp is needed.

Therefore, it would have been obvious to combine Hyodoh et al and Shaw et al with Amplatz et al to obtain the invention as specified in the instant claims.

8. Claims 60-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amplatz et al (US Pat. No.: 5,944,738) in view of Hyodoh et al (US Pub. No.: 2003/0149475) and Shaw et al (US Pat. No. 6,171,329) as applied above, and further in view of Gainor et al (US Pat. No.: 2002/0169475)

In regard to Claims 60-62, Amplatz et al discloses all the limitations of the claims but fails to disclose that the membrane is made of a material with a cross section differing from that of the wire like element and formed from a weave or scrim. However, Gainor et al teaches device comprising a membrane that is made of polyester with a cross section differing from that of a wire-like element and formed from a weave or scrim (Fig. 2). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include a membrane that is made of a polyester with a

cross section differing from that of a wire-like element and formed from a weave or scrim to prevent large particles from go through the membrane.

9. Claims 67-69 and 71-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amplatz et al (US Pat. No.: 5,944,738) in view of Shaw et al (US Pat. No.: 6,171,329).

In regard to Claims 67-69 and 71-73, Amplatz et al discloses all the limitations of the claims but fails to disclose a positioning system.

However, Shaw et al teaches a positioning system, comprising: an advancing element (62), a guide wire (42), and at least one retaining wire (96); wherein a retaining wire loop is formed (Fig. 12A); wherein said retaining wire is threaded through a loop at the end of the proximal portion of the implantable device and are connected to the guide wire. The number of retaining wire loops are merely an obvious designed choice and within one of ordinary skill in the art.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Amplatz et al and Shaw et al before him or her, to modify the system of Amplatz et al to include a positioning system comprising an advancing element, a guide wire and/or inner mandrel, at least one retaining wire, and an extraction wire; wherein a retaining wire loop is formed as taught by Shaw et al.

The suggestion/motivation for doing so would have been to facilitate and enhance the ease of delivering/retracting the implantable device (Shaw et al, Col. 3, lines 23-55)

Therefore, it would have been obvious to combine Shaw et al with Amplatz et al to obtain the invention as specified in the instant claims.

10. Claim 69 is rejected under 35 U.S.C. 103(a) as being unpatentable over Amplatz et al (US Pat. No.: 5,944,738) in view of Shaw et al (US Pat. No.: 6,171,329) as applied to claim 67 above, and further in view of Thill et al (US Pat. No.: 6,124,029).

In regard to claim 69, Amplatz et in view of Shaw et al discloses all the limitations of the claim but fails to disclose an extraction wire (46) in a loop or hoop and threaded through at least one hoop or loop at one end of said proximal or distal portions of the support structure (Fig. 1). However, Thill et al discloses an extraction wire in a loop or hoop and threaded through at least one hoop or loop at one end of said proximal portion of the support structure.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the system of Amplatz et al in view of Shaw et al to include extraction wire in a loop or hoop and threaded through at least one hoop or loop at one end of said proximal portion of the support structure as taught by Thill et al.

The suggestion/motivation for doing so would have been to aid in the collapse of the support structure during reversible retrieval of the device into the catheter (Thill et al, Col. 6, lines 17-23).

Therefore, it would have been obvious to combine Thill et al with Amplatz et al and Shaw et al to obtain the invention as specified in the instant claims.

Response to Arguments

11. Applicant's arguments filed 02/22/2011 have been fully considered but they are not persuasive. In response to the argument provided on pages 13-15 of the remarks, the support structure in Amplatz clearly comprises a tissue and/or scrim and/or net structure (discs 12 or 14 comprises a tissue and/or scrim and/or net structure, Figs.2, 3, 6, or 7). In addition, Hyodoh et al teaches a support structure comprising a single intertwined, inter-coil wire-wire element (see Abstract, and Figs. 50A and 57B-D) having two ends and configured into a tissue and/or scrim and/or net structure (For example, Fig. 50A clearly discloses a support structure comprising a single intertwined, inter-coil wire-wire element having two ends and configured into a tissue and/or scrim and/or net structure at the two ends of the support structure 10). Furthermore, the support structure in Shaw et al clearly comprises a single intertwined, inter-coil wire-wire element having two ends and configured into a tissue and/or scrim and/or net structure (Fig. 7A-7B, the wire-like element is having a tissue and/or scrim and/or net structure at 48 and 50. The combination of Amplatz, Hyodoh et al, and Shaw et al is simply to modify the support structure of Amplatz that is formed of plurality of wires to be formed of a single wire as taught by Hyodoh et al and Shaw et al. The suggestion/motivation for doing so would have been to eliminate the used of two clamps since one clamp is needed.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JING RUI OU whose telephone number is (571)270-5036. The examiner can normally be reached on 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, UYEN (JACKIE) HO can be reached on 571-272-4696. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. O./
Examiner, Art Unit 3773
04/14/2011

/Darwin P. Erez/
Primary Examiner, Art Unit 3773